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QUESTION TYPES, PATTERNS, AND SEQUENCES USED BY ART TEACHERS IN THE CLASSROOM.

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THIS INVESTIGATION WAS CONCERNED WITH THE QUESTIONING TECHNIQUES OF ART TEACHERS AT THE FIRST-GRADE, SEVENTH-GRADE, AND COLLEGE INSTRUCTIONAL LEVELS. THESE THREE LEVELS WERE CHOSEN IN ORDER TO DETERMINE THE MAXIMUM EFFECTS OF STUDENT AGE ON TEACHER QUESTIONING. TWENTY TEACHERS, EACH AVERAGING ABOUT 7 YEARS OF EXPERIENCE, PARTICIPATED IN THE EXPERIMENT. THE TEACHERS WERE NOT AWARE OF THE TRUE PURPOSE OF THE STUDY, SINCE SUCH KNOWLEDGE WOULD HAVE INCREASED THE NUMBER OF QUESTIONS ASKED. TWO REPRESENTATIVE LESSONS WITH DIFFERENT CLASSES WERE TAPE-RECORDED 2 WEEKS APART. TYPES OF QUESTIONS WERE THEN CLASSIFIED FOR ANALYSIS. RESULTS SHOWED--(1) DISTINCT QUESTIONING PATTERNS AT EACH INSTRUCTIONAL LEVEL WERE APPARENT, (2) A MEAN OF ABOUT 60 QUESTIONS WAS ASKED PER 50-MINUTE PERIOD, (3) THERE WAS A SIMILARITY BETWEEN A TEACHER'S TWO LESSONS (GREATER AT THE SEVENTH-GRADE AND COLLEGE LEVELS), (4) THERE WAS SOME INTERLEVEL TEACHER QUESTIONING SIMILARITY, (5) QUESTIONS WERE MOST OFTEN PRECEDED AND FOLLOWED BY A QUESTION OF THE SAME TYPE OR BY NOTHING, (6) SOME QUESTION TYPES CLEARLY RECEIVED LONGER ANSWERS THAN OTHERS, (7) TEACHERS RARELY PAUSED TO GIVE THE STUDENT A CHANCE TO THINK ABOUT ANSWERING, (8) FIVE PERCENT OF THE ANSWERS WERE INTERRUPTED BY THE TEACHER (COLLEGE TEACHERS INTERRUPTED MOST FREQUENTLY), AND (9) OVER HALF THE QUESTIONS RECEIVED ANSWERS OF 1-SECOND DURATION OR LESS. FURTHER EXPERIMENTATION IN THIS AREA WAS RECOMMENDED TO SEE WHETHER OTHER TYPES OF QUESTIONING COULD RESULT IN MORE EFFECTIVE WORKING BEHAVIOR. (WB)

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Question Types, Patterns, and Sequences Used by Art Teachers in the Classroom

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BACKGROUND

Education in general puts problems and questions to the individual calling for an expression of his knowledge and feelings about some issue. In this respect, art education is not unlike music education, mathematics education, or science education. While the students' responses certainly take diverse forms such as numbers, pictures, and words, the role of the teacher remains basically the same--that of setting problems and asking questions in order that the students might express and increase their awareness. When the student is working on his project, he is engaged in a dialogue with that work, and the teacher, who is outside this relationship, enters in through verbal behavior.

This study is concerned with the questioning of art teachers in the classroom. The project was built on a base of experience provided by the investigator's study, "Art Student-Teacher Questioning," to be published in Studies in Art Education, Fall 1964. The purpose of the present investigation was to carry the study into the public schools and colleges to examine art questioning at the 1st grade, 7th grade, and college instructional levels. The objectives of the study were concerned with determining the variation in questioning techniques from level to level and teacher to teacher, and the variation in answer duration.

OBJECTIVES

1. One goal was to describe art teacher questioning at three instructional levels, seeing whether it differed from level to level. The first hypothetical proposition was whether, within the questioning style variations of teachers within any one instructional level, there was some similarity in types and amounts asked. For example, the previous study by the investigator showed that younger children were asked almost twice as many experience type questions, like "What did you see at the barn?", and the older children were asked three times as many questions concerning their judgment of their work.

2. The second proposition to be investigated was whether a teacher would repeatedly ask similar types and amounts of questions to class after class. Would patterns in a teacher's questioning become apparent? Specifically, would the second class period recorded, even though it is a different lesson and group of children, bear resemblances to the teacher's first in regards to amount of each question type, question sequences, and answer duration? Apropos of this point, the Provo Study showed that a teacher exhibits her total style range in about 20 minutes.

The third objective was to determine whether there was a tendency for questions or comments of any type to precede or follow questions of another type.

Would patterns of questioning sequences become apparent? An example of a question sequence which was sometimes heard began with an opening question like, "What are you doing?," was followed by a suggestion-order question like, "Why don't you do X?," and ends with an acceptance question, "O.K.?"

The fourth hypothesis dealt with whether certain question types provoked longer, more thoughtful answers than others. An answer's thoughtfulness and a question's thought-provoking power were judged by answer duration, the number of seconds from when the pupil began to answer until he finished. Thus, an answer of several sentences would indicate greater and more intense thought than a "yes" or "no" answer or one of a few words.

The criterion is supported by several investigators. Taba showed that those students who talked more had better thoughts. Bloomer used answer length as an indication of a question's difficulty, and Corey revealed that average answer length was eleven words. McWilliams' study showed a significant correlation between number of thought questions asked and class attention.

PROCEDURE

The study had three stages: the first stage was the recording of the teachers. Second, from the transcribed tapes, the investigator refined the question type

classification system. Third, the analysis using chi square consisted of the study of teacher questioning similarities within each level, each teacher's questioning patterns, questioning sequences, and the relation of question types to answer length.

1. POPULATION SAMPLES

Teachers were selected from the 1st grade, 7th grade, and college levels; these three instructional levels were chosen in order to determine the maximum effects of student age on teacher questioning. Twenty teachers, with an average teaching experience of about seven years, were recorded at two regular class periods. The teachers were told that the study was concerned with determining how art teaching differed from the 1st grade to the 7th grade to the college levels. The teachers were from the Bald Eagle, Bellefonte, College Area, and Penn's Valley public schools and the Pennsylvania State University Art and Art Education Departments. The college group consisted of three faculty members and three graduate assistant teachers from the art department (the courses were drawing, painting, printmaking and design), and three graduate assistant teachers from the art education department (the course was the basic art and art education course for freshman elementary education majors).

The two representative lessons were, in nearly all cases, with different classes and were separated in time by at least two weeks between lessons. To limit the lesson variable, two-dimensional drawing and painting lessons, rather than three-dimensional and craft lessons, were recorded due to the greater use of the former at all three levels.

2. RECORDING

The class sessions were tape recorded by means of a necklace microphone worn by the teacher and a fifty foot extension cord from microphone to recorder. This ensured the accurate recording of the teacher's voice, not only while she lectured to the class, but especially when she individually spoke to a pupil. The individual pupil-teacher working-period dialogue, which is spoken so softly that a room microphone cannot pick it up, nor can a stenographer seated in the room hear it, has unfortunately been glossed over in some studies of teacher dialogue. For this reason, in this study, working-period questioning was analyzed in greater detail.

The teachers were not aware that the study was concerned with their questioning, since such knowledge would certainly have increased the amount of questions asked. Therefore, there was no reason why the amount of questioning in relation to the total amount of teacher

talk, or amounts of specific kinds of questions, either increased or decreased due to the fact of being recorded. Furthermore, in order to diminish the possible anxiousness which a teacher might feel, the investigator, in some cases, left the room after adjusting the equipment.

3. QUESTION TYPE CLASSIFICATION

The categorization system was delineated by the investigator from the 2300 questions recorded. Other investigators' classification systems developed from the teaching of academic subjects were helpful but not specifically appropriate to the art classroom situation. Monroe's, Aschner's, and Smith's classification systems had many categories which were not asked in art classrooms (e.g., report, summarize or classify your understanding of some historical occasion or mathematical principle), and very few categories which did apply to the motivation, working period, evaluation dialogue of art classes. Some other classification systems were felt to be overly simplified into dichotomous relationship (e.g., thought vs. fact, specific answers vs. divergent answer), and not fitting the logical separation of question types which were found in the investigator's studies of art classroom questioning.

Experience Questions - questions about the impressions and reactions of the pupil's senses to

environmental experiences. "How did you feel when you made the touchdown?" "Is the model's foot in line with her hip?"

Judgment Questions - questions about the impressions and reactions of the pupil's senses to his piece of art work. "Do you like it?"

Intent Questions - questions about the conceptual goals which the pupil has in mind; questions about his plans for creative action. "What do you plan to do here?"

Beginning Questions - questions for the purpose of setting up a dialogue between pupil and teacher about a picture. They do not specifically ask for the pupil's intent, judgment, experiences, or process recall; they are "open" and general in their format. "What are you doing?", "Tell me about it."

Process Recall Questions - questions about the pupil's memory of his intent and actions while creating the picture. "How did you get this effect?"

Identification Questions - questions to clarify in the teacher's mind the identity of objects which the pupil has represented in his picture. "What is this (supposed to be)?"

DIRECTIVE QUESTIONS

Suggestion-Order Questions - conceptual actions and goals formulated by the teacher and suggested to the pupil;

teacher orders phrased as questions. "Why doncha'do--?"

Rule Questions - rule questions are used for the reiteration of previously-learned techniques, rules, and maxims. They are used to enforce the methods which the teacher feels are proper. "How do we hold the cutting tool?" "What do we say about children who don't take time with their pictures?"

OK Questions - these questions are usually asked following a set of directions or an explanation by the teacher. The student's acceptance hopefully signifies some combination of understanding, belief, and future action. "O.K.?"

RESULTS

1. QUESTIONING CHARACTERISTICS AT EACH LEVEL

Distinct questioning patterns did occur at each instructional level. First grade questioning was predominantly (50 per cent) experience questions, "What did it look like?" with negligible amounts of directive questions, "Why don't you do X?", and judgment questions, "How do you feel about this area?" Seventh grade and college questioning contained many judgment questions, few experience questions, and more directive questions. In the following table, the figures to the right indicate how often each question type was asked in the average 50-minute class for each instructional level.

Question Type	Example	Frequency 1st	7th	College
Experience	What is your dog like?	41	6	4
Intent	What will you do?	13	4	4
Beginning	Tell me about your picture?	11	1	5
Identification	What's this?	6	4	5
Process Recall	How did you do this?	3	2	5
Judgment	Do you like this part?	4	18	12
DIRECTIVE QUESTIONS				
Suggestion-Order	Why don't you do X?	3	2	2
Rule	What is our rule for doing this?	0	2	0
OK	O.K.?	2	2	6

In addition to the major shift in judgment, directive, and experience questions, there were other differences between the three instructional levels. Intent questions, "What will you do?", were often asked in 1st grade. Many OK questions were asked in college. First grade students rarely asked any questions. Beginning questions were rarely asked in 7th grade.

The questioning was tabulated within the three parts of the lesson--motivation, working period, and evaluation. More experience questions in 1st grade and judgment questions in 7th grade were asked in the motivation than any other time. The frequency of student questioning, rule and OK questions in the working period steadily increased from 1st grade to college and the frequency of experience questions steadily decreased.

First grade teachers asked most questions, a mean of 84 in a 50-minute period. Seventh grade and college teachers asked 50.

A comparison of findings with the investigator's earlier study indicates that student-teachers ask more directive questions than experienced teachers, perhaps because they have been taught in their college art courses by directive questioning.

2. TOTAL AMOUNT OF QUESTIONING

In total amount of questioning teachers differed greatly. In the 50-minute period the range was from 10 to 185 with a mean of 59.

The frequency of questioning found by other investigators in other subject fields was compared to the findings of the present study. The three other studies were of a wide range of subject fields, mostly all academic, with a mean level about 9th grade. Their results have been prorated to 50-minute classes. Stevens' study (1912) showed that in the average high school class about 100 questions were asked. The Wilson County Project (data gathered by the school principal) reported 25 questions. Burkhart reported that teachers who asked factual questions asked 80. The present investigation found a mean of 59. Although the wide range of frequencies and other variables makes generalization suspect, it seems probable that the frequency of art class questioning is somewhat similar to the frequency of questioning in many other subjects. However, considering that 2/3 of the questioning occurred during the working period when the

teacher usually speaks individually to pupils, the class as a whole is asked fewer questions than in other subjects.

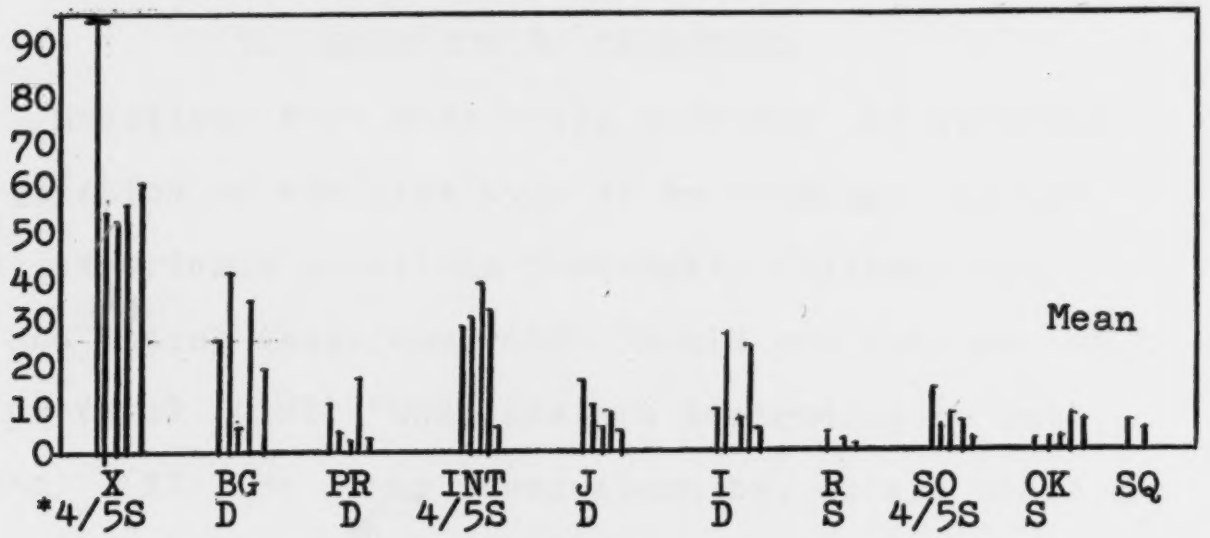
3. INDIVIDUAL TEACHERS' LESSON TO LESSON SIMILARITY

Considered individually, many of the teachers asked similar types and amounts of questions in different classes and lessons recorded two weeks apart. The lessons of 10 out of 16 teachers did not differ significantly at the .05 level (the two lessons of four teachers were not comparable). First grade teachers differed much more from lesson to lesson than did 7th grade and college teachers. Teachers who received similar length answers also asked similar amounts of question types in their two lessons; likewise, teachers with dissimilar question frequencies received dissimilar answer lengths. In brief, the results showed that there was some similarity between a teacher's two lessons, recorded two weeks apart and in different classes. The similarity was greater at the 7th grade and college levels.

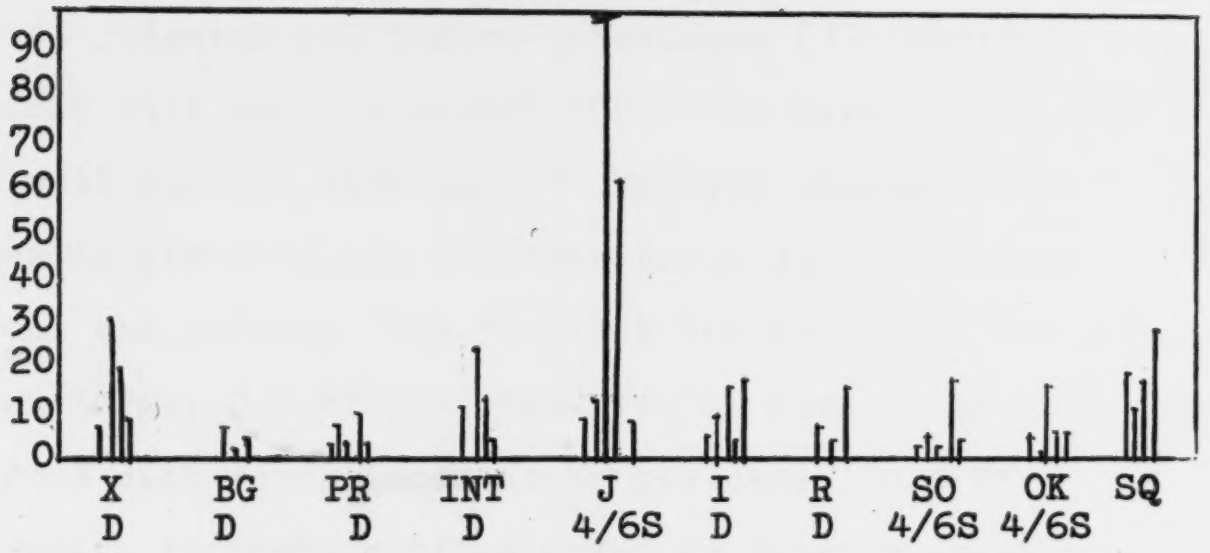
4. INTER-LEVEL TEACHER QUESTIONING SIMILARITY

Some similarity was shown among teachers at each instructional level. Chi square analyses and the graph showed that, disregarding "sports," teachers at two out of three instructional levels did not differ significantly on six out of eight question types.

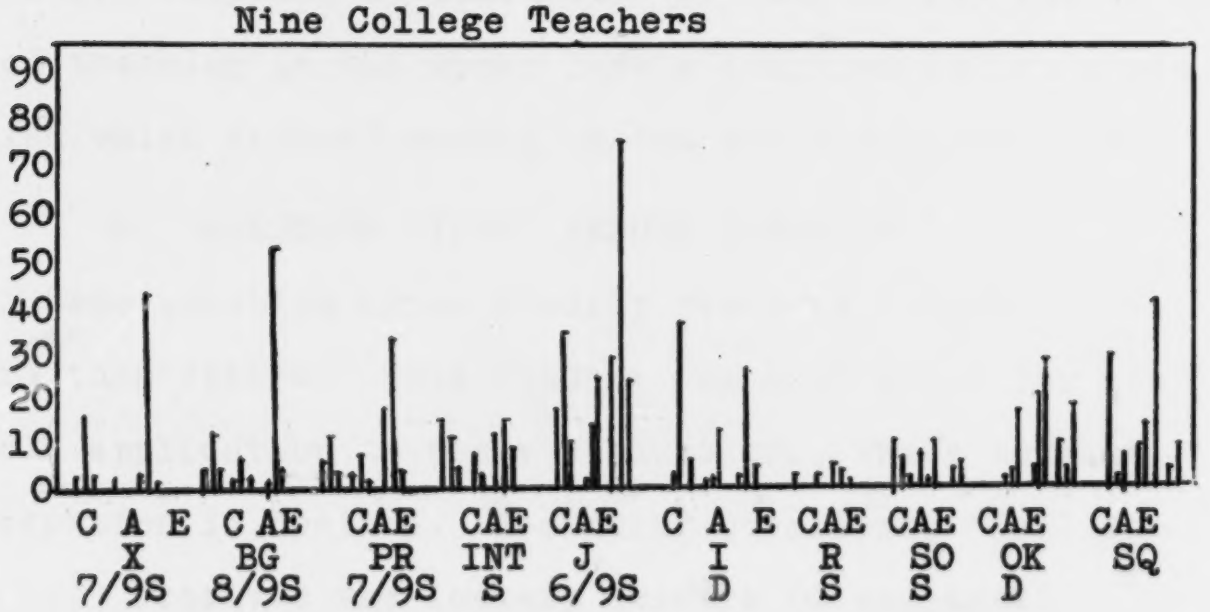
Five First Grade Teachers



Six Seventh Grade Teachers



Nine College Teachers



| = amount of questions asked by each teacher in two 50-minute lessons.

* Read: Four out of five of the teachers did not differ significantly at the .05 level.

S = similar D = differ

5. QUESTIONING SEQUENCES

Questions were most often preceded and followed by a question of the same type or by nothing. In 1st grade, experience questions frequently followed beginning and intent questions; (BG) "Would you tell me about your picture? (INT) "What are you pretending to be?" (a swan) (X) "Are other swans close by, or are there any plants around the pond?" In 7th grade, opinions frequently followed judgment and intent questions; (J) "Wouldn't your roof come only down to here?" (OP) "You have it over the front wall and the side wall." College teachers most frequently preceded and followed their questions with opinions and orders; (OP) "I think its important for you to work large, O.K.?" (OR) "Now you'll have to be more concerned with your placement on the paper, O.K.?" The results indicate a "fine arts" or "master-apprentice" type of teaching in the upper levels compared to 1st grade teaching which focused mostly on the child's experience.

6. QUESTION TYPES' ANSWER DURATION

Some question types clearly received longer answers than others. This finding can have value for its possible application to class discussions, where student participation is desired. Beginning questions, "Tell me about it," received the longest answers (8 seconds). Judgment questions, "Are you pleased with it?", received the second longest answers (4 seconds). Identification

questions, "What will you do?", and experience questions, "What did you see?" (2 seconds). The directive question types (suggestion-order, "Why don't you do --?"; rule, "How do we do --?"; and OK, "Allright."), which are in effect not so much questions as directions, usually received no answer at all; of course, very often the teacher left no time for an answer to the OK questions.

There were not great differences in answer length at the different levels; however, college had slightly more long answers. Generally speaking, 1st grade, 7th grade, and college all received approximately equal answer duration for each question type.

7. PAUSING

Teachers rarely paused to give the student a chance to think about answering; in the average 50-minute art lesson in which 59 questions were asked, a total of only five seconds of pausing were given. In 1st grade, 6.2 seconds of pausing were given; in the 7th grade, 2.3 seconds; and in college, 3.4 seconds. This finding appears to indicate that teachers do not care very much whether or not their questions are answered.

8. INTERRUPTING

Five per cent of the answers were interrupted by the teacher; college teachers interrupted most frequently. Suggestion-order questions were paused most for, paused longest on, and the pupils' answers were much less often interrupted. These three measures indicate that teachers

were most intensely involved with suggestion-order questions. Questions about the pupils' experiences were most often interrupted and seldom paused for.

9. ANSWER DURATION

Perhaps the most striking finding of the study was that over half the questions received answers of one second duration or less; 9/10 of the questions received answers under four seconds. Monroe's questionnaire study of thought questions in academic subjects reported that teachers didn't analyze unsatisfactory answers. On the basis of the present findings (e.g. one-fourth of the questioning receiving no answers; two-thirds receiving answers under two seconds), it appears that art teachers are not even greatly concerned about what kind of answer, if any, they receive.

Comparing these results to Corey's findings, answer lengths are as short in art classes as in other subjects; his study showed that the average answer was eleven words and that 500 out of 1260 questions went unanswered. The following statements by Romiett Stevens from her study, "The Question as a Measure of Efficiency in Instruction," seem applicable. "There is everywhere too much talking by the teacher to permit of much oral expression from the pupils." "Pupils soon learn when a teacher is satisfied with fragmentary answers." (p. 64, 65) In brief, the shortness of the pupils' answers and

the virtual absence of time left for them to answer casts considerable doubt on the value which art teachers attach to their pupils' opinions.

CONCLUSIONS

This investigation has described the art teacher questioning which occurs at three instructional levels. It has shown that teachers within each instructional level tend to show some similarity in their questioning and that each instructional level has a distinct questioning pattern. It has shown that many teachers asked similar types and amounts of questions in different classes. The investigation showed that there was a tendency for certain kinds of questions and comments to precede and follow other question types, and it showed that certain question types received longer answers than others.

Having attempted to define the kind of questioning which is done, the next step would be to devise experimental situations to see whether other kinds of questioning (contrasted to the typical kind of questioning) would result in more intense working behavior, more aesthetic pictures, or some other criterion. But, just as it is necessary for a person finding his way with a map to first find out where he is, the purpose of this investigation was to determine the kinds of art classroom questioning currently being used, in order that future research might experimentally compare other methods of questioning to them, with

the eventual goal of more effective teaching and greater student development through art.

BIBLIOGRAPHY

There are 64 references listed in the final report.

PUBLICATIONS

"Art Student Teacher Questioning," Studies in Art Education, Fall 1964. This article is based on the pilot investigation (not supported) for the present study.

"Question Types, Patterns, and Sequences Asked by Art Teachers in the Classroom," Art Education, research issue, March 1965.